SPACE OPERATIONS CONTROL CENTER

SATELLITE SITUATION REPORT

VOLUME 3, NO. 9

APRIL 30, 1963

GODDARD SPACE FLIGHT CENTER

GREENBELT, MD.

NASA

SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 3 NO. 9   APRIL 30, 1963

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY THE
GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN ASTROPHYSICAL
OBSERVATORY AS OF 1430Z ON APRIL 30, 1963.

BEGINNING WITH THIS ISSUE, THE SATELLITE SITUATION REPORT WILL BE
PUBLISHED THE 15TH AND LAST DAY OF EACH MONTH. ORBITAL INFORMATION ON
SATELLITES IN ORBIT LAUNCHED BY THE NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION, THE DEPARTMENT OF DEFENSE, AND UNCLASSIFIED FOREIGN
LAUNCHES WILL BE LISTED. A COMPLETE DECAYED OBJECTS LIST WILL BE
ISSUED IN EVERY FIFTH PUBLICATION.

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES								
ALPHA 1	EXPLORER 1	US	1 FEB	105.1	33.19	1659	352	108.023 &
BETA 1	ROCKET BODY	US	17 MAR	138.3	34.25	4334	640	
BETA 2	VANGUARD 1	US	17 MAR	133.8	34.24	3944	648	
1959 LAUNCHES								
ALPHA 1	VANGUARD 2	US	17 FEB	125.3	32.85	3280	568	
ALPHA 2	ROCKET BODY	US	17 FEB	129.3	32.91	3643	559	
ETA 1	VANGUARD 3	US	18 SEP	129.9	33.35	3757	490	
MU 1*	LUNIK 1	USSR	2 JAN	449 D	0.01	1.315AU	0.9766AU	
NU 1*	PIONEER 4	US	3 MAR	398 D	1.30	1.142AU	0.9871AU	
IOTA 1	EXPLORER 7	US	13 OCT	101.1	50.27	1084	543	
IOTA 2	ROCKET BODY	US	13 OCT	100.9	50.28	1072	534	
1960 LAUNCHES								
ALPHA 1*	PIONEER 5	US	11 MAR	312 D	3.35	0.995AU	0.8061AU	
BETA 1	ROCKET BODY	US	1 APR	99.0	48.36	737	697	
BETA 2	TIROS 1	US	1 APR	99.1	48.37	739	702	
BETA 3	NONE	US	1 APR	97.8	48.48	702	614	
BETA 4	NONE	US	1 APR	99.8	48.15	801	706	
GAMMA 2	TRANSIT 1B	US	13 APR	94.2	51.23	608	360	
GAMMA 4	NONE	US	13 APR	96.7	51.22	731	479	
EPSILON 3	NONE	USSR	15 MAY	92.1	64.98	495	264	
ZETA 1	MIDAS 2	US	24 MAY	94.2	33.04	495	479	
ETA 1	TRANSIT 2A	US	22 JUN	101.6	66.71	1056	615	
ETA 2	GREB	US	22 JUN	101.6	66.72	1048	620	
ETA 3	ROCKET BODY	US	22 JUN	101.4	66.68	1034	616	
IOTA 1	ECHO 1	US	12 AUG	115.3	47.21	1630	1318	
IOTA 2	ROCKET BODY	US	12 AUG	118.0	47.23	1679	1509	
IOTA 3	METAL OBJECT	US	12 AUG	118.2	47.22	1685	1519	
IOTA 4	METAL OBJECT	US	12 AUG	INSUFFICIENT OBSERVATIONS				
IOTA 5	METAL OBJECT	US	12 AUG	118.3	47.28	1671	1549	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1960 LAUNCHES								
NU 1	COURIER 1B	US	4 OCT	106.8	28.36	1223	955	
NU 2	ROCKET BODY	US	4 OCT	106.4	28.23	1224	911	
XI 1	EXPLORER 8	US	3 NOV	112.3	49.95	2255	419	
XI 2	ROCKET BODY	US	3 NOV	112.0	49.96	2226	416	
XI 3	NONE	US	3 NOV	109.9	49.40	2046	403	
XI 4	NONE	US	3 NOV	110.9	50.50	2117	429	
PI 1	TIROS 2	US	23 NOV	98.2	48.49	739	610	
PI 2	ROCKET BODY	US	23 NOV	98.0	48.48	738	601	
PI 3	NONE	US	23 NOV	98.4	48.52	727	615	
PI 4	NONE	US	23 NOV	98.2	48.45	713	643	
1961 LAUNCHES								
ALPHA 1	SAMOS 2	US	31 JAN	94.8	97.42	546	468	
ALPHA 2	METAL OBJECT	US	31 JAN	94.8	97.42	535	473	
GAMMA 1*	VENUS PROBE	USSR	12 FEB	300.D	0.58	1.0190AU	0.7183AU	
DELTA 1	EXPLORER 9	US	16 FEB	116.9	38.88	2530	568	
DELTA 2	ROCKET BODY	US	16 FEB	118.4	38.84	2589	644	
DELTA 3	NONE	US	16 FEB	INSUFFICIENT OBSERVATIONS				
KAPPA 1	EXPLORER 10	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	US	27 APR	107.8	28.80	1779	489	
OMICRON 1	TRANSIT 4A	US	29 JUN	103.8	66.81	995	883	54;150;324;400
OMICRON 2	INJUN -SR- 3	US	29 JUN	103.8	66.81	997	883	
OMICRON 3-186**	METAL OBJECTS	US	29 JUN					
RHO 1	TIROS 3	US	12 JUL	100.3	47.89	833	723	
RHO 2	ROCKET BODY	US	12 JUL	100.3	47.88	798	753	
RHO 3	METAL OBJECT	US	12 JUL	98.8	47.92	791	617	
RHO 4	METAL OBJECT	US	12 JUL	101.9	47.84	935	772	
SIGMA 1	MIDAS 3	US	12 JUL	161.5	91.22	3575	3314	
SIGMA 3	METAL OBJECT	US	12 JUL	161.2	91.16	3550	3312	
SIGMA 4	METAL OBJECT	US	12 JUL	161.9	91.17	3569	3353	
UPSILON 1	EXPLORER 12	US	16 AUG	INSUFFICIENT OBSERVATIONS				
A DELTA 1	MIDAS 4	US	21 OCT	166.0	95.92	3731	3521	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1961 LAUNCHES								
A DELTA 3	METAL OBJECT	US	21 OCT	165.6	95.85	3717	3502	
A DELTA 4	METAL OBJECT	US	21 OCT	166.4	95.87	3770	3515	
A ETA 1	TRANSIT 4B	US	15 NOV	105.6	32.43	1114	948	
A ETA 2	TRAAC	US	15 NOV	105.6	32.44	1091	972	
A ETA 3	ROCKET BODY	US	15 NOV	105.5	32.42	1094	955	
1962 LAUNCHES								
ALPHA 1*	RANGER 3	US	26 JAN	406.4D	.3988	1.163AU	0.9839AU	
ALPHA 2	ROCKET BODY	US	26 JAN	INSUFFICIENT OBSERVATIONS				
BETA 1	TIROS 4	US	8 FEB	100.3	48.27	846	706	136.744
BETA 2	ROCKET BODY	US	8 FEB	101.3	48.14	939	708	
BETA 3	METAL OBJECT	US	8 FEB	99.4	48.42	773	694	
BETA 4	METAL OBJECT	US	8 FEB	100.2	48.26	832	715	
ZETA 1	ORB.SOL.OBS. 1	US	7 MAR	95.9	32.83	582	558	
ZETA 2	ROCKET BODY	US	7 MAR	95.9	32.83	595	548	
ETA 1		US	7 MAR	90.1	90.87	338	218	
IOTA 1	COSMOS 2	USSR	6 APR	93.8	48.94	734	199	
KAPPA 1		US	9 APR	153.0	86.69	3413	2781	
KAPPA 3		US	9 APR	152.7	86.70	3363	2800	
KAPPA 4		US	9 APR	153.4	86.59	3401	2822	
MU 2	ROCKET BODY	US	23 APR	INSUFFICIENT OBSERVATIONS				
OMICRON 1	ARIEL	US/UK	26 APR	100.7	53.87	1190	396	136.407
OMICRON 2	ROCKET BODY	US/UK	26 APR	100.6	53.88	1186	397	
SIGMA 1		US	15 MAY	92.3	82.32	488	277	
UPSILON 1	COSMOS 5	USSR	28 MAY	88.7	48.77	268	157	
OMEGA 1		US	18 JUN	91.4	82.12	354	328	
A ALPHA 1	TIROS 5	US	19 JUN	100.4	58.07	980	583	
A ALPHA 2	ROCKET BODY	US	19 JUN	100.4	58.07	972	583	
A ALPHA 3	METAL OBJECT	US	19 JUN	101.7	58.17	1093	590	
A ALPHA 4	METAL OBJECT	US	19 JUN	99.1	57.97	867	565	
A EPSILON 1	TELSTAR 1	US	10 JUL	157.7	44.80	5636	955	136.234;136.923
A EPSILON 2	ROCKET BODY	US	10 JUL	157.6	44.81	5633	947	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES								
A XI 1	COSMOS 8	USSR	18 AUG	90.9	48.96	404	240	
A OMICRON 1		US	23 AUG	99.6	98.64	846	627	
A OMICRON 2		US	23 AUG	98.3	98.62	740	612	
A OMICRON 3		US	23 AUG	100.9	98.62	982	613	
A OMICORN 4		US	23 AUG	99.6	98.64	860	612	136.233;136.922
A RHO 1*	MARINER 2	US	27 AUG	348 D	1.66	1.229AU	0.7046AU	
A RHO 2	ROCKET BODY	US	27 AUG					
A UPSILON 1		US	1 SEP	93.5	82.81	607	283	
A PSI 1	TIROS 6	US	18 SEP	98.7	58.29	716	681	$ 136.979;136.593
A PSI 2	ROCKET BODY	US	18 SEP	98.7	58.28	714	677	
A PSI 3	METAL OBJECT	US	18 SEP	99.4	58.44	762	697	
A PSI 4	METAL OBJECT	US	18 SEP	98.0	58.21	678	652	
B ALPHA 1	ALOUETTE	CANADA	29 SEP	105.5	80.48	1029	1004	136.440
B ALPHA 2	ROCKET BODY	US	29 SEP	105.5	80.46	1034	994	
B ALPHA 3	METAL OBJECT	US	29 SEP	105.4	80.56	1022	1000	
B ALPHA 4	METAL OBJECT	US	29 SEP	105.5	80.44	1037	997	
B GAMMA 1	EXPLORER 14	US	2 OCT	2184.6	37.36	97536	1252	
B GAMMA 2	ROCKET BODY	US	2 OCT	INSUFFICIENT OBSERVATIONS				
B ETA 1	RANGER 5	US	18 OCT	370 D	.44422	1.0681AU	0.9498AU	
B EAT 2	ROCKET BODY	US	18 OCT					
B THETA 1		USSR	20 OCT	94.6	48.96	764	242	
B THETA 2		USSR	20 OCT	91.5	48.86	482	226	
B KAPPA 1		US	26 OCT	144.0	71.43	5244	202	
B LAMBDA 1	EXPLORER 15	US	27 OCT	314.7	17.98	17603	317	
B LAMBDA 2	ROCKET BODY	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	US	31 OCT	107.8	50.14	1182	1078	162;324
B MU 2	ROCKET BODY	US	31 OCT	107.5	50.13	1146	1086	
B NU 3		USSR	1 NOV	COMPUTATIONS IN PROGRESS				
B TAU 1	INJUN 3	US	13 DEC	114.9	70.36	2655	218	$ 136.860
B TAU 2		US	13 DEC	115.4	70.39	2713	231	
B TAU 3		US	13 DEC	100.4	70.32	1319	238	
B TAU 4		US	13 DEC	113.7	70.33	2589	203	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES								
B TAU 5		US	13 DEC	114.6	70.37	2650	219	
B TAU 6		US	13 DEC	115.2	70.40	2703	223	
B UPSILON 1	RELAY 1	US	13 DEC	185.0	47.51	7443	1319	136.140
B UPSILON 2	ROCKET BODY	US	13 DEC	184.8	47.46	7451	1294	
B CHI 1	EXPLORER 16	US	16 DEC	104.3	52.00	1186	743	$136.860;$136.200
B PSI 1	TRANSIT 5A	US	19 DEC	99.2	90.61	742	689	
B PSI 2		US	19 DEC	97.9	90.74	745	566	
B PSI 3		US	19 DEC	99.1	90.63	742	688	
B PSI 4		US	19 DEC	100.3	90.49	824	715	
1963 LAUNCHES								
1963 3A		US	16 JAN	94.6	81.89	537	460	
1963 3B		US	16 JAN	94.1	81.87	505	435	
1963 3C		US	16 JAN	94.3	81.88	531	437	
1963 4A	SYNCOM	US	14 FEB	1426.6	33.51	37021	34185	
1963 4B	ROCKET BODY	US	14 FEB	605.7	33.16	34442	250	
1963 5A		US	19 FEB	97.8	100.47	794	507	
1963 5B		US	19 FEB	97.8	100.49	789	510	
1963 5C		US	19 FEB	97.1	100.48	756	478	
1963 5D		US	19 FEB	98.5	100.45	833	532	
1963 8B		USSR	COMPUTATIONS IN PROGRESS					
1963 9A	EXPLORER 17	US	3 APR	96.3	57.61	917	246	$136.320;136560
1963 9B	ROCKET BODY	US	3 APR	95.9	57.60	884	244	
1963 10A		USSR	13 APR	91.7	48.90	469	258	
1963 10B		USSR	13 APR	91.6	48.90	464	253	
1963 11B		USSR	22 APR	88.6	64.95	247	161	
1963 12A		USSR	28 APR	90.4	65.06	384	199	
1963 12B		USSR	28 APR	90.5	65.08	381	214	

* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.

** ONE HUNDRED AND EIGHTY FOUR METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LISTS.

$ TRANSMITTING ON COMMAND ONLY.

& TRANSMITTING WHEN IN SUNLIGHT ONLY.

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1957 LAUNCHES				
ALPHA 1	ROCKET BODY	USSR	4 OCT	1 DEC 57
ALPHA 2	SPUTNIK 1	USSR	4 OCT	EARLY JAN 58
BETA 1	SPUTNIK 2	USSR	3 NOV	14 APR 58
1958 LAUNCHES				
GAMMA 1	EXPLORER 3	US	26 MAR	28 JUN 58
DELTA 1	ROCKET BODY	USSR	15 MAY	3 DEC 58
DELTA 2	SPUTNIK 3	USSR	15 MAY	6 APR 60
EPSILON 1	EXPLORER 4	US	26 JUL	23 OCT 59
ZETA 1	SCORE	US	18 DEC	21 JAN 59
ETA 1	PIONEER 1	US	11 OCT	12 OCT 58
THETA 1	PIONEER 3	US	6 DEC	7 DEC 58
1959 LAUNCHES				
BETA 1	DISCOVERER 1	US	28 FEB	EARLY MAR 59
GAMMA 1	DISCOVERER 2	US	13 APR	26 APR 59
DELTA 1	EXPLORER 6	US	7 AUG	PRESUMED PRIOR JUL 61
DELTA 2	ROCKET BODY	US	7 AUG	PRESUMED PRIOR JUL 61
EPSILON 1	DISCOVERER 5	US	13 AUG	28 SEP 59
EPSILON 2	CAPSULE	US	13 AUG	11 FEB 61
ZETA 1	DISCOVERER 6	US	19 AUG	20 OCT 59
THETA 1	LUNIK 3	USSR	4 OCT	MAR 60
KAPPA 1	DISCOVERER 7	US	7 NOV	26 NOV 59
LAMBDA 1	DISCOVERER 8	US	20 NOV	8 MAR 60
XI 1	LUNIK 2	USSR	12 SEP	13 SEP 59******
1960 LAUNCHES				
GAMMA 1	ROCKET BODY	US	13 APR	18 AUG 60
GAMMA 3	METAL OBJECT	US	13 APR	JUL 60

DECAYED OBJECTS (CONT'D)

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1960 LAUNCHES CONT'D				
DELTA 1	DISCOVERER 11	US	15 APR	26 APR 60
EPSILON 1	SPUTNIK 4	USSR	15 MAY	5 SEP 62
EPSILON 2	ROCKET BODY	USSR	15 MAY	17 JUL 60
EPSILON 4	NONE	USSR	15 MAY	PRIOR JUL 61
EPSILON 5	NONE	USSR	15 MAY	SEP-OCT 60
EPSILON 6	NONE	USSR	15 MAY	24 SEP 60
EPSILON 7	NONE	USSR	15 MAY	24 SEP 60
EPSILON 8	NONE	USSR	15 MAY	SEP-OCT 60
EPSILON 9	NONE	USSR	15 MAY	SEP-OCT 60
ZETA 2	METAL OBJECT	US	24 MAY	5 DEC 60
THETA 1	DISCOVERER 13	US	10 AUG	14 NOV 60
THETA 1	CAPSULE	US	10 AUG	11 AUG 60**
KAPPA 1	DISCOVERER 14	US	18 AUG	16 SEP 60
KAPPA 1	CAPSULE	US	18 AUG	19 AUG 60***
LAMBDA 1	SPUTNIK 5	USSR	19 AUG	20 AUG 60*
LAMBDA 2	ROCKET BODY	USSR	19 AUG	23 SEP 60
MU 1	DISCOVERER 15	US	13 SEP	18 OCT 60
MU 1	CAPSULE	US	13 SEP	15 SEP 60***
OMICRON 1	DISCOVERER 17	US	12 NOV	29 DEC 60
OMICRON 1	CAPSULE	US	12 NOV	14 NOV 60
RHO 1	SPUTNIK 6	USSR	1 DEC	2 DEC 60
RHO 2	ROCKET BODY	USSR	1 DEC	2 DEC 60
SIGMA 1	CAPSULE	US	7 DEC	10 DEC 60**
SIGMA 1	DISCOVERER 18	US	7 DEC	2 APR 61
TAU 1	DISCOVERER 19	US	20 DEC	23 JAN 61
1961 LAUNCHES				
BETA 1	SPUTNIK 7	USSR	4 FEB	26 FEB 61
BETA 2	ROCKET BODY	USSR	4 FEB	12-13 FEB 61
BETA 3	NONE	USSR	4 FEB	17 MAR 61
GAMMA 2	ROCKET BODY	USSR	12 FEB	18 FEB 61

1961 LAUNCHES CONT'D

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
GAMMA 3	SPUTNIK 8	USSR	12 FEB	25 FEB 61
GAMMA 4	NONE	USSR	12 FEB	13-18 FEB 61
DELTA 4	NONE	US	16 FEB	PRIOR JUL 61
EPSILON 1	DISCOVERER 20	US	17 FEB	28 JUL 62
EPSILON 2	NONE	US	17 FEB	30 MAR-2 APR 61
EPSILON 3	NONE	US	17 FEB	20 APR 61
EPSILON 4	NONE	US	17 FEB	31 OCT 61
ZETA 1	DISCOVERER 21	US	18 FEB	20 APR 62
ETA 1	TRANSIT 3B & LOFTI	US	22 FEB	30 MAR 61
THETA 1	SPUTNIK 9	USSR	9 MAR	9 MAR 61*
THETA 2	NONE	USSR	9 MAR	10 MAR 61
THETA 3	NONE	USSR	9 MAR	10 MAR 61
THETA 4	NONE	USSR	9 MAR	10 MAR 61
IOTA 1	SPUTNIK 10	USSR	25 MAR	25 MAR 61
IOTA 2	ROCKET BODY	USSR	25 MAR	26 MAR 61
IOTA 3	NONE	USSR	25 MAR	26 MAR 61
LAMBDA 1	DISCOVERER 23	US	8 APR	16 APR 62
LAMBDA 2	CAPSULE	US	8 APR	23 MAY 62
LAMBDA 3	NONE	US	8 APR	10 SEP 61
MU 1	VOSTOK 1	USSR	12 APR	12 APR 61****
MU 2	ROCKET BODY	USSR	12 APR	16 APR 61
XI 1	CAPSULE	US	16 JUN	18 JUN 61**
XI 1	DISCOVERER 25	US	16 JUN	12 JUL 61
XI 2	NONE	US	16 JUN	19 JUN 61
OMICRON 25	METAL OBJECT	US	29 JUN	30 SEP 62
OMICRON 28	METAL OBJECT	US	29 JUN	16 JUN 62
OMICRON 46	METAL OBJECT	US	29 JUN	29 JAN 62
PI 1	DISCOVERER 26	US	7 JUL	5 DEC 61
PI 1	CAPSULE	US	8 JUL	9 JUL 61**
SIGMA 2	METAL OBJECT	US	12 JUL	24 JUL 61
TAU 1	VOSTOK 2	USSR	6 AUG	7 AUG 61****
TAU 2	ROCKET BODY	USSR	6 AUG	9 AUG 61

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1961 LAUNCHES CONT'D				
PHI 1	RANGER 1	US	23 AUG	30 AUG 61
PHI 2	ROCKET BODY	US	23 AUG	3 SEP 61
CHI 1	EXPLORER 13	US	25 AUG	28 AUG 61
PSI 1	DISCOVERER 29	US	30 AUG	10 SEP 61
PSI 1	CAPSULE	US	30 AUG	4 SEP 61
OMEGA 1	DISCOVERER 30	US	12 SEP	11 DEC 61
OMEGA 1	CAPSULE	US	12 SEP	15 SEP 61**
OMEGA 2	METAL OBJECT	US	12 SEP	18 SEP 61
OMEGA 3	METAL OBJECT	US	12 SEP	28 SEP 61
A ALPHA 1	MA-4	US	13 SEP	13 SEP 61**
A ALPHA 2	ROCKET BODY	US	13 SEP	13 SEP 61
A BETA 1	DISCOVERER 31	US	17 SEP	26 OCT 61
A GAMMA 1	DISCOVERER 32	US	13 OCT	13 NOV 61
A GAMMA 1	CAPSULE	US	13 OCT	14 OCT 61**
A GAMMA 2	METAL OBJECT	US	13 OCT	25 OCT 61**
A GAMMA 3	METAL OBJECT	US	13 OCT	16 OCT 61
A DELTA 2		US	21 OCT	5 DEC 61
A EPSILON 1	DISCOVERER 34	US	5 NOV	7 DEC 62
A EPSILON 2	METAL OBJECT	US	5 NOV	30 NOV 61
A EPSILON 3	METAL OBJECT	US	5 NOV	9 DEC 61
A EPSILON 4	METAL OBJECT	US	5 NOV	10 DEC 61
A EPSILON 5	METAL OBJECT	US	5 NOV	12 DEC 61
A ZETA 1	DISCOVERER 35	US	15 NOV	3 DEC 61
A ZETA 1	CAPSULE	US	15 NOV	16 NOV 61**
A ZETA 2	METAL OBJECT	US	15 NOV	23 NOV 61
A THETA 1	RANGER 2	US	18 NOV	20 NOV 61
A IOTA 1	MA-5	US	29 NOV	29 NOV 61**
A IOTA 2	ROCKET BODY	US	29 NOV	30 NOV 61
A KAPPA 1	DISCOVERER 36	US	12 DEC	8 MAR 62
A KAPPA 1	CAPSULE	US	12 DEC	16 DEC 61**
A KAPPA 2	OSCAR 1	US	12 DEC	31 JAN 62
A KAPPA 3	METAL OBJECT	US	12 DEC	19 DEC 61

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1961 LAUNCHES CONT'D				
A LAMBDA 1		US	22 DEC	14 AUG 62
A LAMBDA 2		US	22 DEC	31 DEC 61
A LAMBDA 3		US	22 DEC	9 JAN 62
1962 LAUNCHES				
GAMMA 1	FRIENDSHIP 7	US	20 FEB	20 FEB 62******
GAMMA 2	ROCKET BODY	US	20 FEB	21 FEB 62
DELTA 1		US	21 FEB	4 MAR 62
EPSILON 1	DISCOVERER 38	US	27 FEB	21 MAR 62
EPSILON 1	CAPSULE	US	27 FEB	3 MAR 62**
EPSILON 2	ROCKET BODY	US	27 FEB	3 MAR 62
EPSILON 3	METAL OBJECT	US	27 FEB	3 MAR 62
EPSILON 4	METAL OBJECT	US	27 FEB	7 MAR 62
ETA 2		US	7 MAR	31 MAR 62
ETA 3		US	7 MAR	3 NOV 62
THETA 1	COSMOS 1	USSR	16 MAR	25 MAY 62
THETA 2	ROCKET BODY	USSR	16 MAR	18 JUN 62
IOTA 2	ROCKET BODY	USSR	6 APR	6 OCT 62
KAPPA 2		US	9 APR	4 MAY 62
LAMBDA 1		US	18 APR	28 MAY 62
LAMBDA 2		US	18 APR	20 APR 62
LAMBDA 3		US	18 APR	21 APR 62
LAMBDA 4		US	18 APR	21 APR 62
MU 1	RANGER 4	US	23 APR	26 APR 62*****
NU 1	COSMOS 3	USSR	24 APR	17 OCT 62
NU 2	ROCKET BODY	USSR	24 APR	5 AUG 62
XI 1	COSMOS 4	USSR	26 APR	29 APR 62
XI 2	ROCKET BODY	USSR	26 APR	17 JUN 62
XI 3	METAL OBJECT	USSR	26 APR	3 MAY 62
PI 1		US	26 APR	28 APR 62
RHO 1		US	29 APR	26 MAY 62
RHO 2		US	29 APR	1 MAY 62

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1962 LAUNCHES CONT'D				
SIGMA 2		US	15 MAY	3 JUL 62
SIGMA 3		US	15 MAY	13 JUL 62
TAU 1	AURORA 7	US	24 MAY	24 MAY 62******
TAU 2	ROCKET BODY	US	24 MAY	25 MAY 62
UPSILON 2	ROCKET BODY	USSR	28 MAY	15 DEC 62
PHI 1		US	30 MAY	11 JUN 62
PHI 2		US	30 MAY	2 JUN 62
CHI 1		US	2 JUN	28 JUN 62
CHI 2	OSCAR 2	US	2 JUN	21 JUN 62
CHI 3		US	2 JUN	6 JUN 62
PSI 1		US	17 JUN	18 JUN 62
OMEGA 2		US	18 JUN	12 JUL 62
OMEGA 3		US	18 JUN	14 JUL 62
A BETA 1		US	23 JUN	7 JUL 62
A GAMMA 1		US	28 JUN	14 SEP 62
A DELTA 1	COSMOS 6	USSR	30 JUN	8 AUG 62
A DELTA 2	ROCKET BODY	USSR	30 JUN	8 SEP 62
A ZETA 1		US	18 JUL	25 JUL 62
A ZETA 2		US	18 JUL	27 JUL 62
A ETA 1		US	21 JUL	14 AUG 62
A THETA 1		US	28 JUL	24 AUG 62
A IOTA 1	COSMOS 7	USSR	28 JUL	1 AUG 62
A IOTA 2	ROCKET BODY	USSR	28 JUL	21 AUG 62
A IOTA 3	METAL OBJECT	USSR	28 JUL	31 JUL 62
A IOTA 4	METAL OBJECT	USSR	28 JUL	30 JUL 62
A KAPPA 1		US	2 AUG	26 AUG 62
A KAPPA 2		US	2 AUG	8 AUG 62
A LAMBDA 1		US	5 AUG	6 AUG 62
A MU 1	VOSTOK 3	USSR	11 AUG	15 AUG 62****
A MU 2	ROCKET BODY	USSR	11 AUG	14 AUG 62
A NU 1	VOSTOK 4	USSR	12 AUG	15 AUG 62****
A NU 2	ROCKET BODY	USSR	12 AUG	14 AUG 62
A XI 2	ROCKET BODY	USSR	18 AUG	19 DEC 62
A PI 1		USSR	25 AUG	28 AUG 62

DECAYED OBJECTS (CONT'D)

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1962 LAUNCHES CONT'D				
A PI 2		USSR	25 AUG	2 SEP 62
A PI 3		USSR	25 AUG	31 AUG 62
A PI 4		USSR	25 AUG	5 SEP 62
A PI 5		USSR	25 AUG	30 AUG 62
A PI 6		USSR	25 AUG	6 SEP 62
A PI 7		USSR	25 AUG	8 SEP 62
A PI 8		USSR	25 AUG	5 SEP 62
A SIGMA 1		US	29 AUG	10 SEP 62
A TAU 1		USSR	1 SEP	6 SEP 62
A TAU 2		USSR	1 SEP	3 SEP 62
A TAU 3		USSR	1 SEP	3 SEP-1 OCT 62
A TAU 4		USSR	1 SEP	21 SEP 62
A CHI 1		US	17 SEP	16 NOV 62
A OMEGA 1		USSR	27 SEP	1 OCT 62
A OMEGA 2		USSR	27 SEP	22 DEC 62
A OMEGA 3		USSR	27 SEP	6 OCT 62
A OMEGA 4		USSR	27 SEP	8 OCT 62
A OMEGA 5		USSR	27 SEP	4 OCT 62
A OMEGA 6		USSR	27 SEP	8 OCT 62
A OMEGA 7		USSR	27 SEP	3 OCT 62
A OMEGA 8		USSR	27 SEP	6 OCT 62
B BETA 1		US	29 SEP	14 OCT 62
B DELTA 1	SIGMA 7	US	3 OCT	3 OCT 62******
B DELTA 2	ROCKET BODY	US	3 OCT	4 OCT 62
B EPSILON 1		US	9 OCT	16 NOV 62
B ZETA 1		USSR	17 OCT	21 OCT 62
B ZETA 2		USSR	17 OCT	5 NOV 62
B NU 1		USSR	1 NOV	2-3 NOV 62
B NU 2		USSR	1 NOV	3 NOV 62
B OMICRON 1		USSR	5 NOV	3 DEC 62
B PI 1		US	11 NOV	12 NOV 62
B RHO 1		US	24 NOV	13 DEC 62
B SIGMA 1		US	4 DEC	8 DEC 62
B PHI 1		US	14 DEC	8 JAN 63

DECAYED OBJECTS (CONT'D)

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1962 LAUNCHES CONT'D)				
B OMEGA 1		USSR	22 DEC	30 DEC 62
B OMEGA 2		USSR	22 DEC	22 JAN 63
1963 LAUNCHES				
1963 2A		US	7 JAN	24 JAN 63
1963 2B		US	7 JAN	16 JAN 63
1963 6A		USSR	21 MAR	29 MAR 63
1963 6B		USSR	21 MAR	9 APR 63
1963 7A		US	1 APR	26 APR 63
1963 8A		USSR	2 APR	3 APR 63
1963 11A		USSR	22 APR	27 APR 63

* USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY
** SUCCESSFUL RE-ENTRY AND RECOVERY
*** SUCCESSFUL RE-ENTRY, BUT NOT RECOVERY
**** USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY OF A MANNED SPACE VEHICLE
***** HIT MOON
****** US SUCCESSFULLY ORBITED AND RECOVERED A MANNED SPACE VEHICLE